



The University of Limerick offers programmes of education and research to doctorate level in the following areas: **science, engineering, mathematics, computing, education, business, social science, humanities, dance and music**. The extensive modern campus of the University is located on the banks of the River Shannon at the heart of the 640 acre National Technological Park, approximately 3 miles from the centre of Limerick city. The University has excellent educational, cultural, sporting and residential facilities and accommodates some 12,500 students.

INTRODUCTION

Graduates of Applied Physics are sought after by the high technology sector. The UL Physics Department is working with companies such as Analog Devices, COOK Medical, Intel Corporation, Seagate and BorgWarner. This engagement advances science, develops new products and processes, and also creates employment opportunities for our graduates.

The MSc Applied Physics is a calendar year programme intended for graduates of science, particularly those with backgrounds in general physics, astrophysics, and physics education. The programme is also suitable for graduates of engineering, subject to experience.

The course is delivered by researchers working at the cutting edge of next generation technologies for instance at the nanoscale. These researchers have an outstanding track record in producing scientific publications, and intellectual property e.g. patents.

Several of our researchers are members of the Bernal

Institute at UL which is one of the leading research institutes in Ireland. The Bernal Institute houses nationally unique scientific infrastructure for the preparation and characterisation of novel materials and components. For instance, the laboratory of advanced microscopy houses the newly commissioned FEI Titan Transmission Electron Microscope, which is coordinated by one of the MSc programme lecturers, Professor Ursel Bangert, who is a world leading researcher in the field of microscopy.

OBJECTIVES

The objective of the MSc Applied Physics programme is to meet the needs of graduates who wish to augment their skills with an understanding of applied physics and knowledge of the physical principles underlying material properties, and the operation of processes and equipment, for the high technology sector.

PROGRAMME OUTLINE

SEMESTER 1

PH6001 Research Project 1

Students to **choose 4 modules** from electives below

PH5094 Nanoscience & Technology 1

PH5041 Condensed Matter Physics 1

PH5098 Semiconductor Processing 1

PH5093 Physics of Advanced Metrology

PH5091 Physics of Materials

PH6041 Methodology of Research in Physical Science

SEMESTER 2

PH6002 Research Project 2

Students to **choose 4 modules** from electives below

PH5095 Nanoscience & Technology 2

PH5042 Condensed Matter Physics 2

PH5092 Semiconductor Processing 2

PH6031 Physics of Medical Instrumentation

MT4518 Surface Technology

PH6022 Reporting Results in Physical Science

SEMESTER SUMMER

PH5097

Research Project 3

PROGRAMME OF STUDY

The Masters of Applied Physics is a one calendar year, fulltime programme.

It involves course work which extends over two semesters and a work project which is carried out on a part-time basis in semester 1 and 2 and on a full-time basis in the final summer semester.

A passing grade in the entire project element will be a requirement to graduate with a MSc award.

CAREERS

The Applied Physics degree provides flexibility and freedom in choosing a career. Career opportunities exist throughout the high technology sector, and potential employers include companies such as Analog Devices, Intel Corporation, Seagate, Harris, Borg Warner, IBM, Nortel, Boston Scientific and COOK Medical.

Past graduates of this programme work as engineers and many also use the MSc Applied Physics programme to transition into frontier physics research at PhD level.

ENTRANCE REQUIREMENTS

Normally a 2.2 Hons Degree (Level 8 – National Qualifications Authority of Ireland) in an appropriate Science / Engineering / Technology discipline.

Applications from other graduates who have a significant mathematical element in their primary degree in addition to other relevant technical background will also be considered.

FEES

Information on fees and semester dates is available from the university webpage www.ul.ie/finance.

CONTACT

Applicants who wish to discuss detailed elements of the programme may contact the Course Director:

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HOW TO APPLY

Please apply online at www.graduateschool.ul.ie

Postgraduate Admissions Office
Graduate School
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<http://www.graduatestudies.ul.ie>

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